

## CLAIMS

1. A method for preparing a sintered structural steel part with a carbon content of up to 2 % by weight, wherein an agglomerated spherical soft iron-based powder comprising at least 0.5 % by weight of a thermo-reversible hydrocolloid as a binder is pressed to a green body of high density, characterised in that the green body is heated to a temperature of about 450-650°C under a controlled atmosphere to remove the non-carbon content of the binder, and then sintered at a temperature of about 1100-1400°C to allow the remaining carbon to diffuse homogeneously into the sintered body, giving structural parts of high density and having high strength properties.
2. A method according to claim 1, characterised in that the hydrocolloid is gelatin.
3. A method according to claim 1 or 2, characterised in that the agglomerated powder in addition comprises fine-grained graphite powder.
4. A method according to any of claims 1-3, characterised in that the heating at 450-650°C takes place under a protective atmosphere to prevent oxidation.
5. A method according to any of claims 1-4, characterised in that the heating at 450-650°C takes place under an atmosphere which allows part of the carbon to be removed.
6. Structural steel part of high density and high strength, characterised in being prepared by a method according to any of claims 1-5.

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